SAMSUNG ELECTRONICS

Training Manual

For PDP TV D490/D450 Series

PN**D490****** [43, 51]

PS**D490****** [43, 51]
PS**D450****** [43, 51]

PL**D490****** [43, 51]
PL**D450****** [43, 51]

Contents

"World first Vivid 3D Experience in PDP"

- ✓ 3D : World first 3D Built-in PDP (PD490)
- ✓ Stylish : Narrow Bezel Design

□. Product Concept

Series	2011		2010	
	Key Feature	Inch	Key Feature	Inch
4	• 3D • +1 inch • Narrow Bezel • 3HDMI	 43 51	• 3HDMI	 42 50

Specification

Items			New Model	
			Px43D490xxxxxx	Px51D490xxxxxx
General	Size (W×H×D) with Stand		39.8×27.5×12 inches	46.7×30.8×12 inches
	Weight with Stand		41.8 lbs	56.2 lbs
	Resolution		1024×768	1365×768
	Module (M1)		BN96-16470A	BN96-16471A
Input & Output	Composite In (A/V)		1	1
	Component In (Y/Pb/Pr)	NT	2	2
		PAL	1	1
	PC In (D-sub)		1	1
	HDMI		3	3
	USB		1	1
	Digital Audio Out (Optical)		1	1
	Ethernet (LAN)		×	×
Feature	Dolby		Dolby Digital Plus / Dolby Pulse	Dolby Digital Plus / Dolby Pulse
	SRS		SRS Theater Sound	SRS Theater Sound
	Dts 2.0 + Digital Out		O	O
	Sound Output		10W(6ohm)×2	10W(6ohm)×2
	Picture In Picture		1 Tuner PIP	1 Tuner PIP
	HDMI 1.4		O	O
	DNIe		O	O
	C/R [typical]		1,000,000 : 1	1,000,000 : 1
	Anynet+ (HDMI-CEC)		O	O
	Allshare (Powered by DLNA)		×	×
	Viewing Angle (H/V)		Over 160	Over 160

Specification

Spec. Comparison

Model		Px43D490xxxxxx	Px42C450xxxxxx
Design			
Set	Size(Inches)	43“	42”
	Size	Diagonal 43”	Diagonal 42”
	Resolution	1024 x 768	1024 x 768
	Panel	43DH	42U2P
Feature	Enhancer	DNIe(SEMS20)	DNIe(SEMS13)
	SRS	SRS Theater Sound	SRS TruSurround HD
	HDMI	HDMI 1.4A (3 port)	HDMI 1.3A (3 port)
Additional Feature		Narrow Bezel Samsung 3D Embedded POP E-Manual 1 Tuner PIP	-

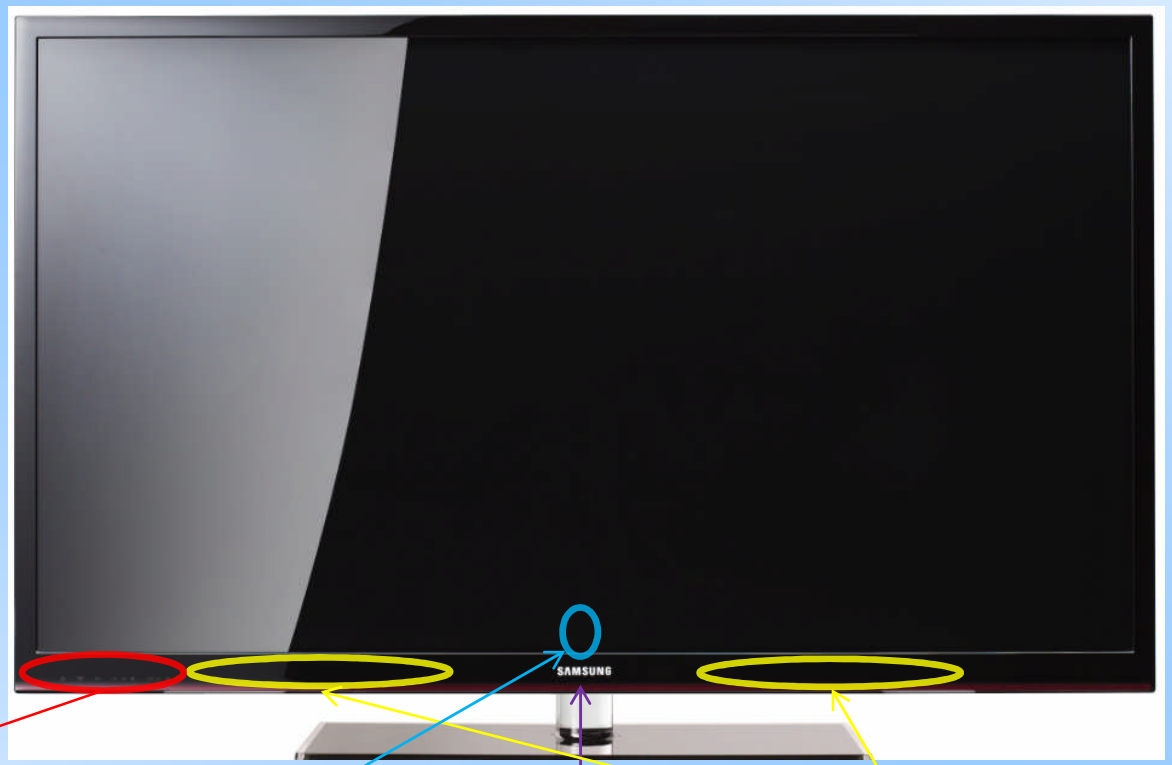
Specification

Spec. Comparison

Model		Px51D490xxxxxx	Px50C450xxxxxx
Design			
Set	Size(Inches)	51“	50”
	Size	Diagonal 51”	Diagonal 50”
	Resolution	1365 x 768	1365 x 768
	Panel	51DH	50U2P
Feature	Enhancer	DNIe(SEMS20)	DNIe(SEMS13)
	SRS	SRS Theater Sound	SRS TruSurround HD
	HDMI	HDMI 1.4A (3 port)	HDMI 1.3A (3 port)
Additional Feature		Narrow Bezel Samsung 3D Embedded POP E-Manual 1 Tuner PIP	-

□. Front/Rear View

Viewing Front



Menu Key
Remote Control Sensor
Power Indicator
Eco Sensor

Bluetooth

Samsung Logo : Not light up

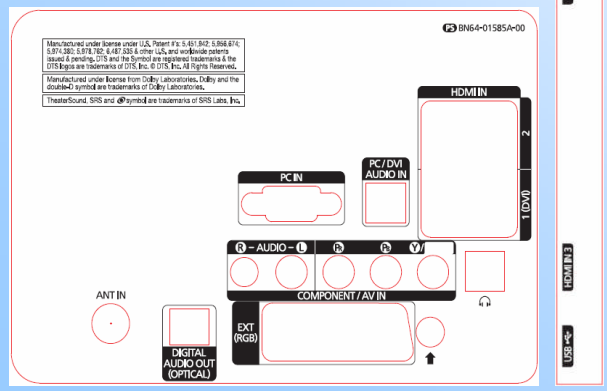
Speaker

Touch Key : Not light up

□. Front/Rear View

Viewing Rear

EU



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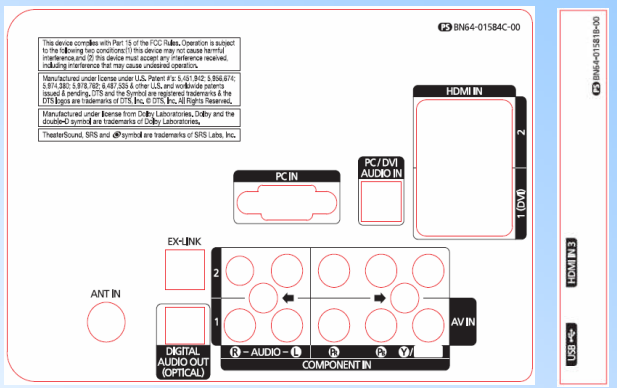
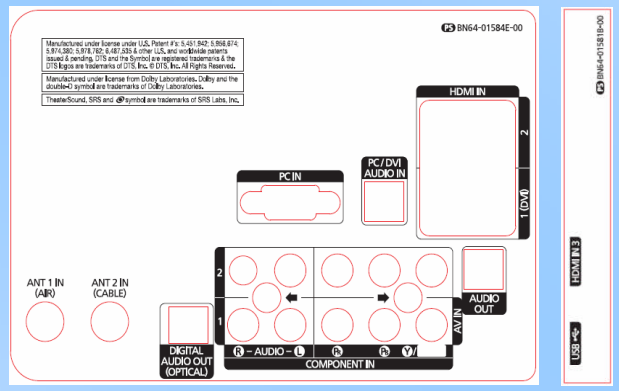
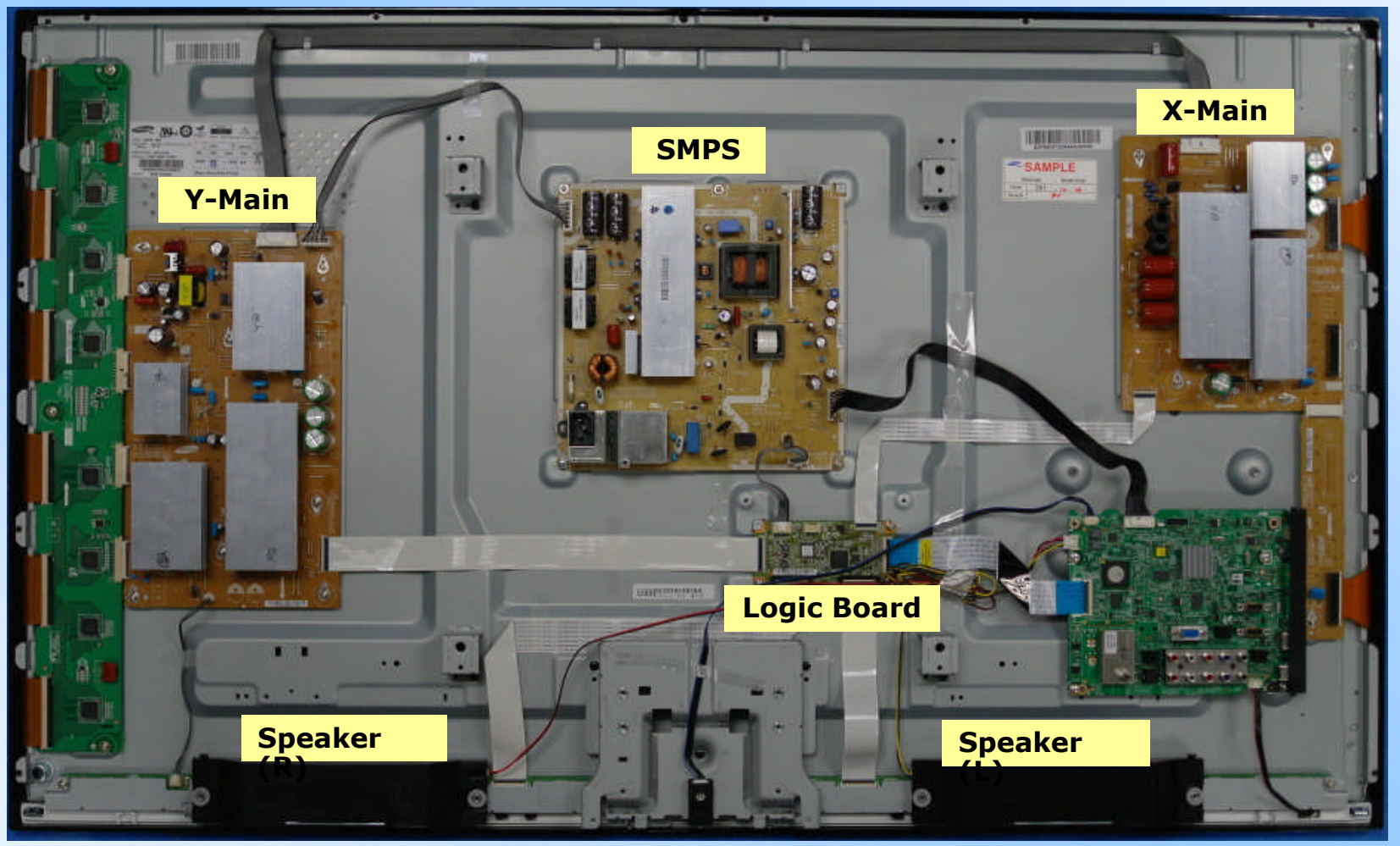


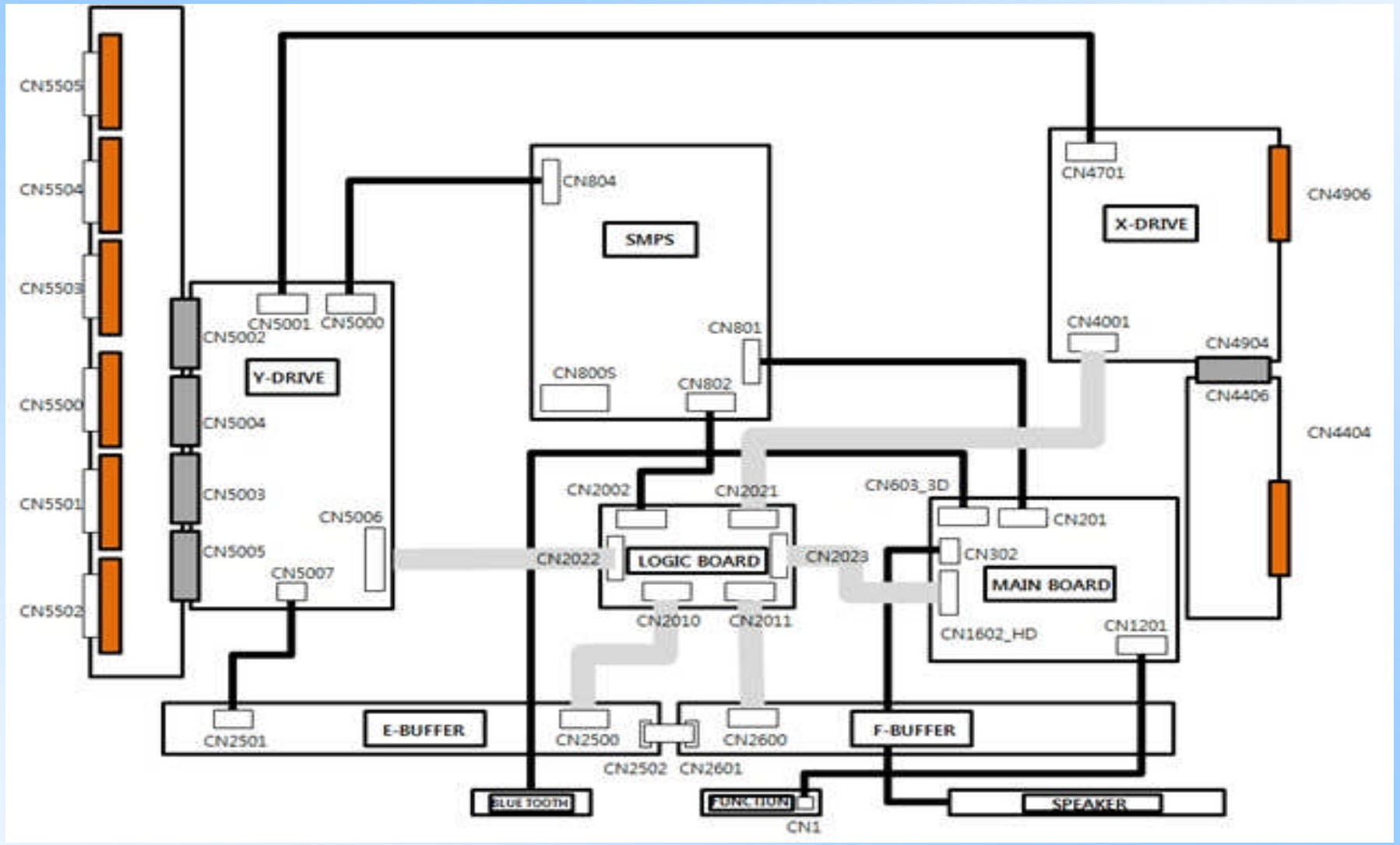
Brazil



Layout

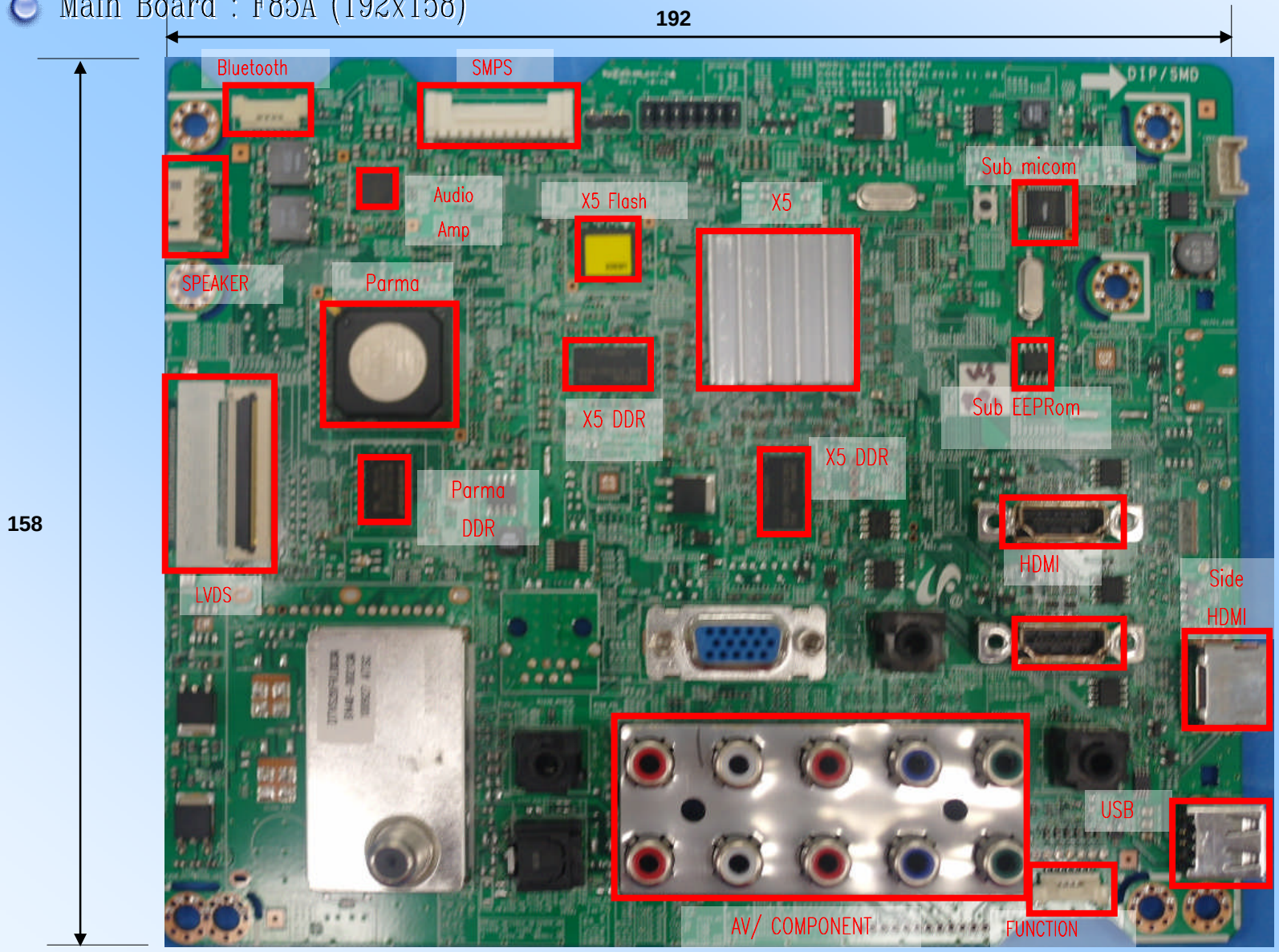


Wiring Diagram



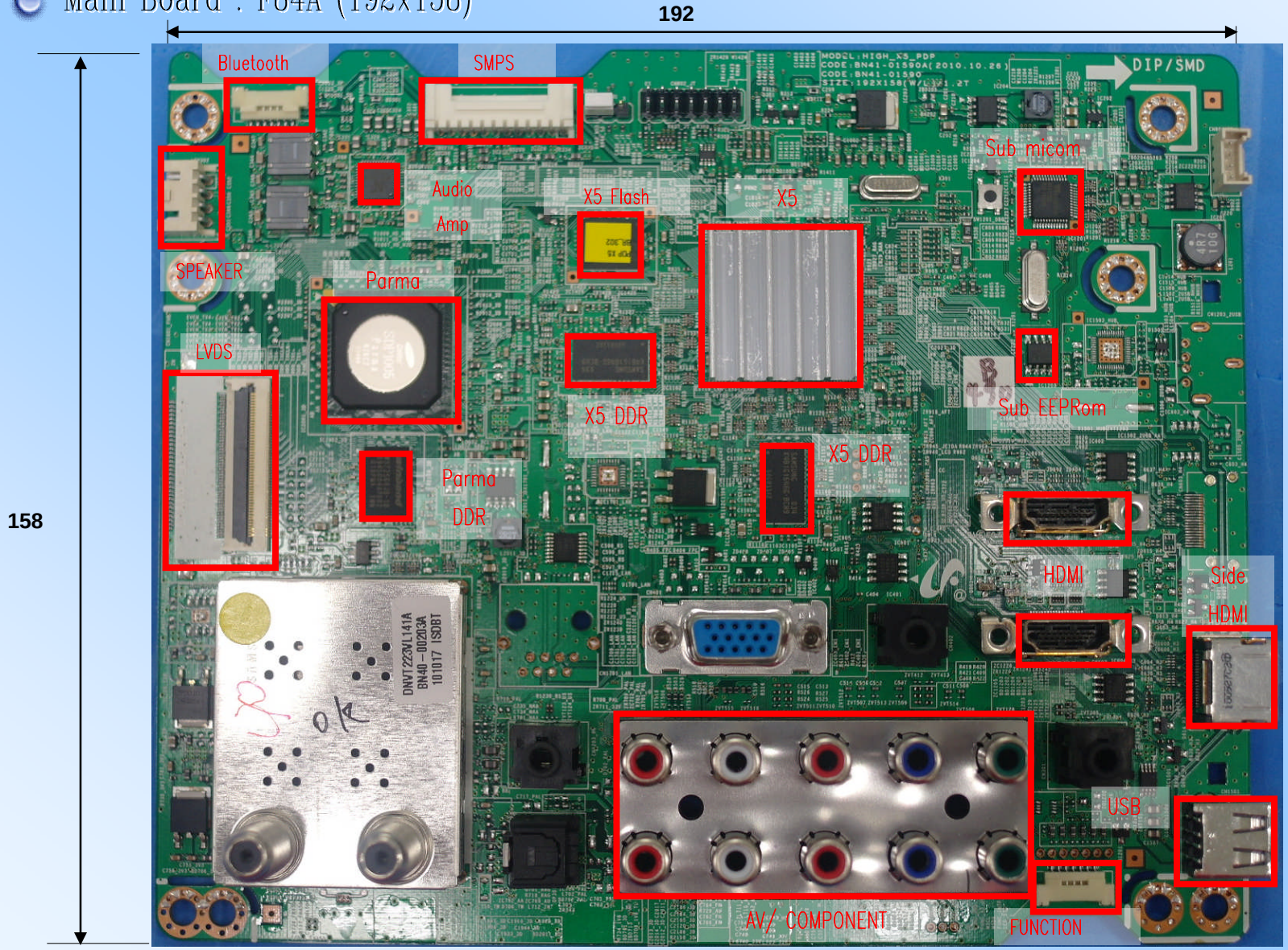
Layout [US/KOR]

Main Board : F85A (192x158)



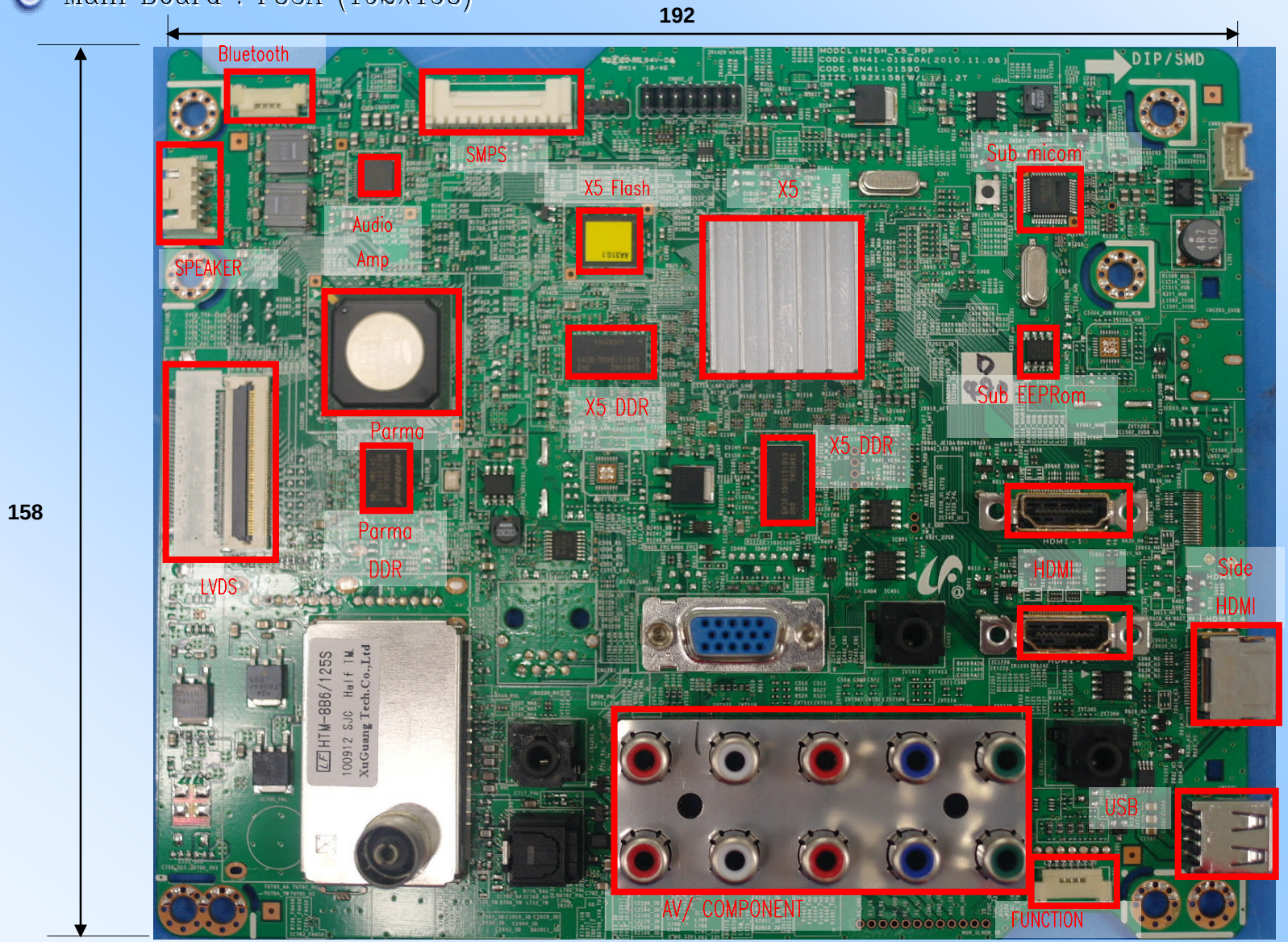
Layout [Latin America]

Main Board : F84A (192x158)



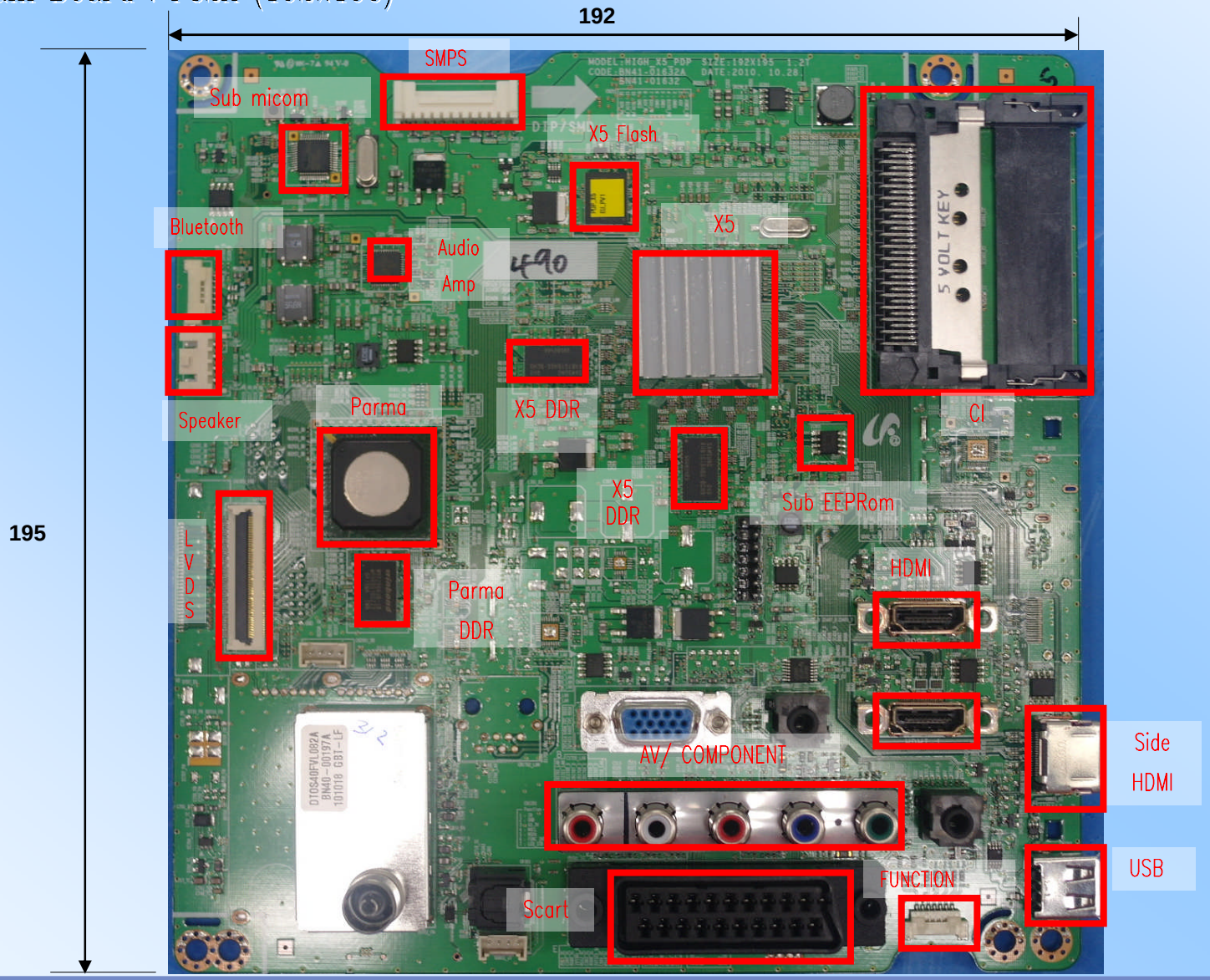
Layout [ASIA DTV & Ready]

Main Board : F83A (192x158)



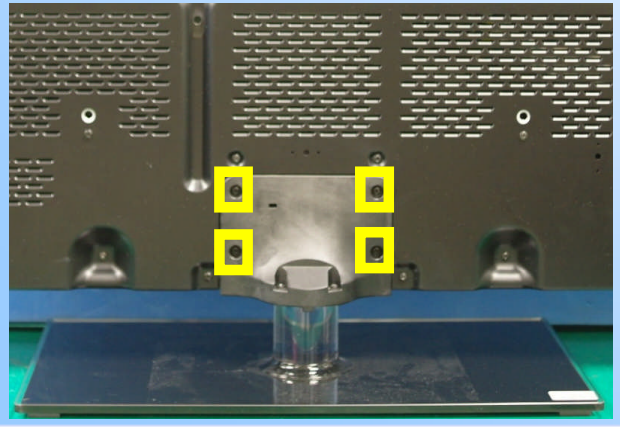
Layout [EU]

Main Board : F82A (192x195)

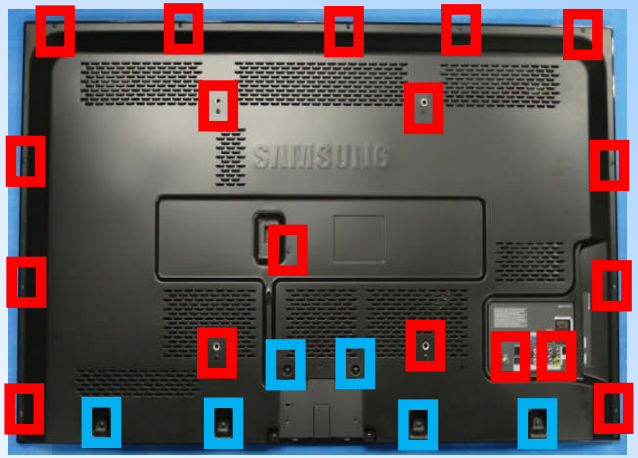


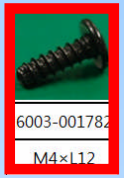
Disassembly

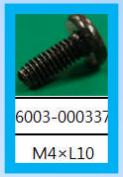
1. Place the TV face down on cushioned table.
   Remove 4 screws from the Stand.
   Remove stand.

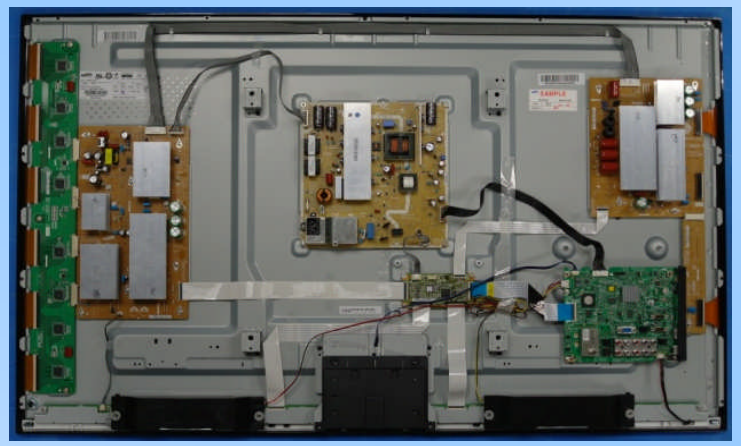


2. Remove the screws of rear cover.
3. Lift up the rear cover.



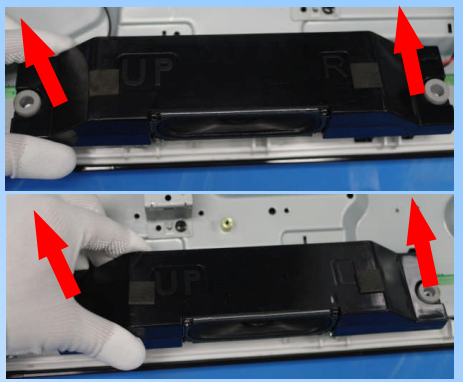


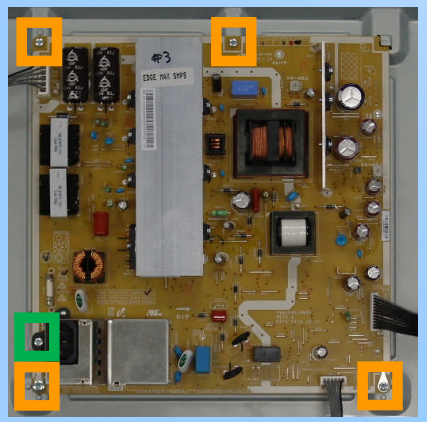


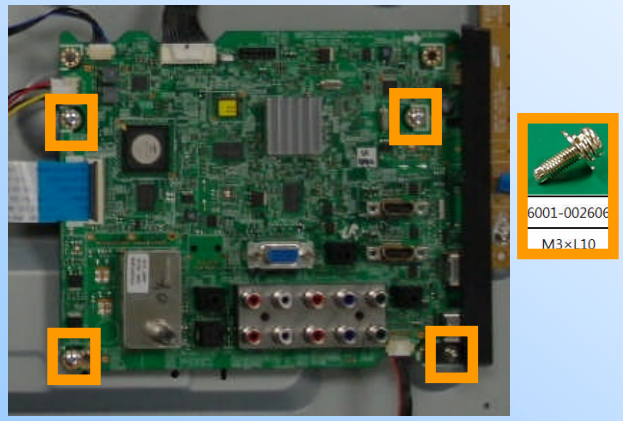


Disassembly

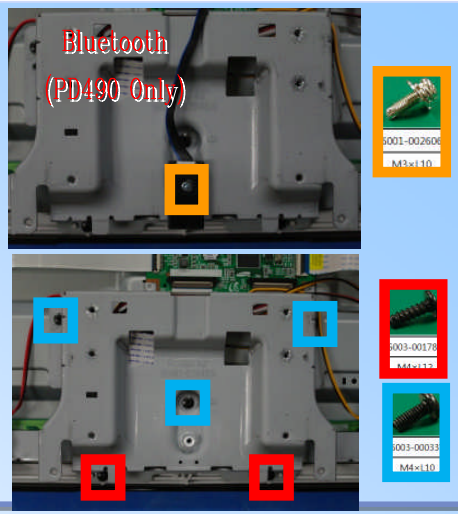
4. Remove the left and right speaker.
5. Remove the cables and screws from SMPS, Main board.

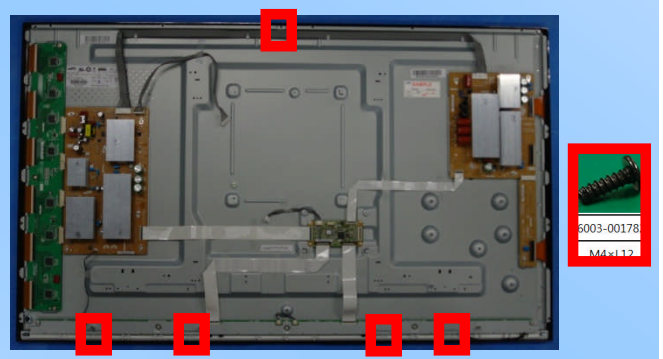






5. Lift up cover Bottom then remove the screws from Bracket stand link.
6. Lift up the Bracket stand link and panel.





Key Feature

3D TV

– What is 3D TV

. A system that display 3D images artificially

. How ? Using binocular time delay
  . Left eye recognizes left image, right eye recognizes right image.
  . Human eyes be far away each other 65mm horizontally.
  So each eye feels a little bit of time delay of left and right information.
  Human brain merges those images and can feel three-dimensional.

. Side by side

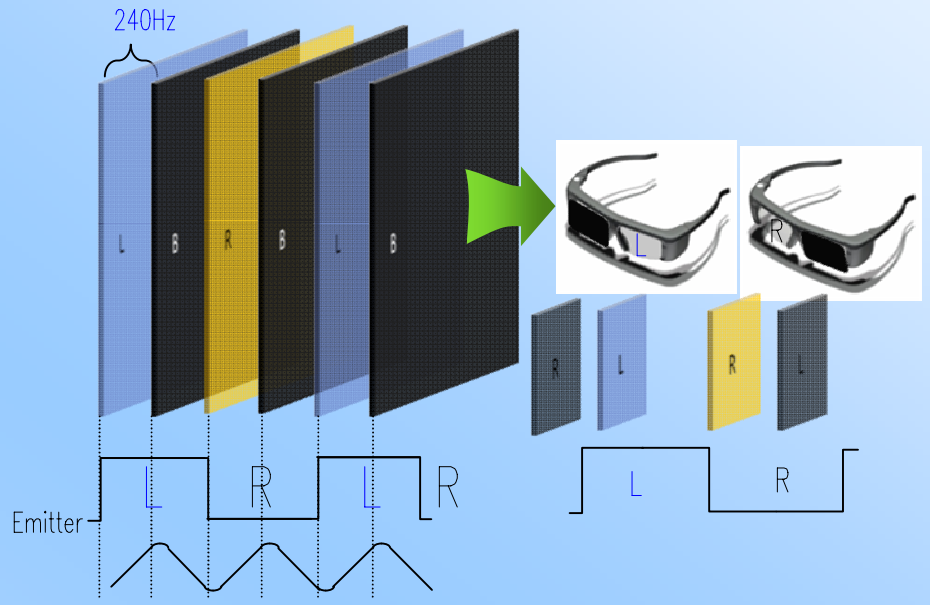
Key Feature

– How to operate

. 3D TV shows left and right image by turns.

. At the same time, TV gives synchronizing signal to 3D glasses through 3D emitter.

. 3D glasses shutter each lens by turns according to this signal



Key Feature

– 3D Formats

Format	Input images	explanation	Input source	notes
Frame Packing		• Inserting Blink Active Space between Left and Right images. * Full resolution : 1920 x 1080 x 2 (Left and Right each) + Blink = 1920 x 2205	HDMI 1.4	1. HDMI 1.4 standard format 2. Automatically activating (Not in the menu or UI) 3. BD format
Top & Bottom		• In 1 frame, Left image on the upper half, Right image on the bottom half. * Vertically half resolution	HDMI, USB, DTV(VOD), PC	3D Broadcasting Format
Side by Side		• In 1 frame, Left image on the left half, Right image on the right half. * Horizontally half resolution	HDMI, USB, DTV(VOD), PC	3D Broadcasting Format
Line by Line		• In 1 frame, every horizontal line, Left and Right image in turn. * Vertically half resolution	PC	1. MPEG encoding impossible 2. Only in PC
Vertical Stripe		• In 1 frame, every vertical line, Left and Right image in turn. * Horizontally half resolution	PC	1. MPEG encoding impossible 2. Only in PC
Checker Board		• In 1 frame, every pixel, Left and Right image in turn. * Half resolution both vertically and horizontally	PC	1. MPEG encoding impossible 2. Only in PC
Frame Sequential		• Left And Right image in turn in every frame. • Full resolution spatially but Half resolution timely.	PC	
2D → 3D	Extract Left and Right images artificially from normal 2D contents input and show it in 3D. (a function of TV)			
3D → 2D	When watching 3D TV (input is 3D source) , if a viewer feels tired of watching 3D TV, a viewer can change the TV into 2D. (In this case , TV only displays one of Left and Right images)			

– 3D Formats

Depth	Only activating in '2D → 3D Mode' Control the depth of 3D. 1~10 steps, Tiredness goes higher as depth goes higher.
L/R correction	Switch the position of Left and Right images so that correspond with 3D glasses.
3D Disable (3D off)	'3D off' has below meanings according to present modes .
	(1) In 2D → 3D Mode : coming back to 2D
	
	(2) In 3D mode